SPML Frequently Asked Questions

Comment from Dr. Yngve:
I first heard about the SPML procedure from a Physical Therapist. She had heard about the results with this procedure at a Physical Therapy meeting. I found Dr. Nuzzo’s web site (www.pediatric-orthopedics.com) and learned a lot there but still had more questions. I have visited with Dr. Nuzzo in New Jersey several times to learn the procedure. I have now done over 1000 cases and have been pleased with the results. This procedure does a lot more than Botox, and has a short recovery period.

What does SPML refer to?
SPLM (Selective Percutaneous Myofascial Lengthening) refers to an outpatient surgery under a general anesthetic for the treatment of the tight tendons that are found in children with cerebral palsy. The word “Percutaneous” in the name SPML means using very small skin incisions 2-3 mm in length, so small that stitches are not needed. The SPML method was developed by Roy Nuzzo M.D. of Summit, NJ.

What is exactly done with the SPML procedure?
The SPML procedure involves releasing tight bands of tendon. This is done where muscle and tendon overlap. These areas of overlap are areas where a tendon starts to blend into a muscle. The tendon spreads out and is thinner at this location and is called Myofascia. When the myofascia is cut, the muscle under it can easily stretch and lengthen.

What part of the body can be treated with SPML?
Some children have tightness and spasticity in many locations in the legs. With the SPML procedure, many areas can be addressed during the same procedure.

Common areas for the SPML procedure are:
- at the low calf for ankle / calf / heel cord tightness
- behind the knee for hamstring tightness
- in the groin area for scissoring gait and groin tightness

What age can be treated with the SPML procedure?
SPML works well for children of all ages and for adults. Because the SPML procedure uses micro incisions, very little scar forms. This is a good feature since scar is associated with recurrent contracture. This allows the SPML procedure to work well for all ages, including groups that have a reputation for recurrent contracture following conventional tendon lengthening surgery such as very young children, adolescents and adults.
What are the long term results of the SPML procedure?
Our study of 27 children with before and after video showed improved knee and ankle position. Our review of 184 patients revealed 13 complications that included 8 paresthesias, 4 tight casts and one fever. Complications were minor and there was no chronic pain. Our study of 516 patients revealed an 11% reoperation rate 1-6 years later.

Can the SPML procedure decrease spasticity?
Yes. Walking on a contracted joint puts a strong pull on the muscle-tendon unit with each step. This stimulates spasticity. Lengthening the muscle-tendon unit decreases the triggering of spasticity.

What is an alcohol nerve block?
The alcohol nerve block is a common procedure that is done at the same time as the SPML procedure in children who have overactivity of the obturator nerves in the groin. Overactivity of these nerves contributes to stiffness of the hips or scissoring gait, in which the legs cross in front of each other in walking. The alcohol block is also used to decrease spasticity in the legs. The alcohol block takes the nerve from overactive spasticity to a more normal state. It does this by dissolving the fatty coating, called the myelin sheath which is wrapped around the nerve. The nerve itself remains intact. The myelin sheath can grow back in about 1-3 years.

How is the ankle area treated after the SPML procedure?
There will be a cast from below the knee to the ball of the foot. Walking is encouraged. It is best to put a shoe directly over the cast.

How is the knee area treated after the SPML procedure?
We will put on a knee splint made of cloth and foam with Velcro straps after the procedure. You can take this off for daytime activities. It should be worn every night for 2 months to prevent sleeping in a curled up position.

How is the groin area treated after the SPML procedure?
Nothing special is needed.

What exercises are recommended after the SPML procedure?
Long sitting. This is sitting on the floor with the knees out in front as straight as possible. This helps to keep the backs of the knees stretched out.
Giant steps. Encourage the child to take as big steps as possible. Try counting the number of steps it takes to walk across the room. Then try to walk across the room using giant steps. You should count fewer steps.

Walking on uneven ground. This teaches the ability to deal with the unexpected. It also teaches fast reactions. It helps in learning new ways to use the legs.

How soon can children resume PT following SPML?
Children who have the SPML procedure are allowed to walk when comfortable, which is within a week and sometimes the next day. If not walking by the third day, it is time to start! It usually takes 1-2 months to regain the before surgery level of activity, then expect monthly improvement up to 4-5 months from surgery. Physical Therapy can be very beneficial and can be resumed immediately following the procedure.

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